WHAT IS CLAIMED IS:

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1. A rotary cutting head for cutting rock by crushing, comprising:

a support;

a cone cutter rotatably mounted by bearings on the support;

rows of welded-on crushing elements adhered to a base body of the cone cutter by a metallurgical bond, each crushing element comprising a body having a working portion, an opposing mounting portion, and an intermediate portion from which the working and mounting portions extend, each crushing element having a greatest width D at the intermediate portion, and a greatest height H extending from a tip of the working portion to a transition between the intermediate portion and the mounting portion, wherein H/D < 1.2.

2. The cutting head according to claim 1 wherein the cutting head comprises a drill bit having a plurality of the supports, the supports comprising legs.

3. A crushing element adapted for use on a rotary cone cutter, the crushing element comprising a cemented carbide body having a top working portion, an opposing bottom mounting portion of generally conical shape, and an intermediate portion from which the mounting portion extends, the crushing element having a greatest width D at the intermediate portion,

and a greatest height H extending from a tip of the mounting portion to a transition between the intermediate portion and the mounting portion, wherein H/D < 1.2.

4. The crushing element according to claim 3 wherein the mounting portion includes a spigot extending downwardly from a center of a bottom of a conical section of the mounting portion, the spigot extending symmetrically about a central axis of the crushing element.

5. The crushing element according to claim 3 wherein the mounting portion forms an internal cone angle from 150° to less than 180°.

6. The crushing element according to claim 3 wherein the intermediate portion has a height no greater than 15 mm.

7. A rotary cone cutter adapted to be rotatably mounted on a rotary cutting head, the cone cutter comprising a base body, and rows of welded -on crushing elements adhered to the base body by metallurgical bonds, each crushing element comprising a body having a working portion, an opposing mounting portion, and an intermediate portion from which the working mounting portions extend, each crushing element having a greatest width D at the intermediate portion, and a greatest height H extending from a tip of the working portion to a transition between the intermediate portion and the mounting portion, wherein H/D < 1.2.

8. A method of manufacturing a rotary rock-crushing cone cutter comprising the steps of:

A) providing a base body, and a plurality of crushing elements, each crushing element comprising a body having a working portion, an opposing mounting portion, and an intermediate portion from which the working and mounting portions extend, each crushing element having a greatest width D at the intermediate portion, and a greatest height H extending from a tip of the working portion to a transition between the intermediate portion and the mounting portion, wherein H/D < 1.2;

B) connecting the base body to one pole of an electric circuit, and connecting one of the crushing elements to another pole of the circuit;

C) bringing a surface of the mounting portion of the crushing element toward a supporting surface of the base body and energizing the circuit to create an electric arc between the mounting portion and the supporting surface;

D) maintaining the arc sufficiently to melt both the surface of the mounting portion and the supporting surface;

E) pressing the melted surfaces together;

F) permitting the pressed-together melted surfaces to solidify; and

G) repeating steps B-F for the remaining crushing elements.

9. The method according to claim 8 wherein the electric circuit is energized by a capacitor pack in step C, the mounting portion including a spigot projecting downwardly from a center of a bottom of a conical segment of the mounting portion, step C comprising bringing the spigot into contact with the supporting surface to short-circuit the capacitor pack.

10. The method according to claim 8 wherein step C comprises contacting the mounting portion with the supporting surface and then energizing the circuit while simultaneously lifting the mounting portion off the supporting surface to form the electric arc.

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